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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,985	12/12/2001	John Oshinowo	AZ.2819	8336

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EXAMINER	
MARKOFF, ALEXANDER	

ART UNIT	PAPER NUMBER
1746	

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/913,985	OSHINOWO ET AL.	
	Examiner	Art Unit	
	Alexander Markoff	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 31-59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 31-45 are indefinite because it is not clear from claim 31 how can the "method for treating substrates in at least one of two tanks" be "carried for each of said tanks". Should the disclosed steps be carried in at least one tank or in both tanks?

It appears that claims are incomplete because they lack a step of preparing the second treatment fluid.

It is not clear how can the steps a-e, which are conducted in one tank, be controlled in parallel in time staggered manner.

It is not clear what is referenced as a "time staggered manner" in this context. It appears that this term contradict to the term "parallel".

It is not clear how can steps a-e be controlled in "the respective tanks", when they disclosed for one tank.

It is not clear how can the steps "b" be controlled in parallel in both tanks, when the processing unit has a capacity just for one tank.

It is not clear how can the steps "c" conducted in different tanks be in parallel, when the claim requires a time period between them.

It is not clear how can the substrates be removed from "said tanks", when they were "charged" only in one tank. It appears that the claims are further incomplete.

The claims are indefinite because they recite a method of treating substrates, but fail to recite any treatment step. This is especially true in view of claim 36, which requires the steps of preparation of the treatment fluid and unloading of the tank to at least partially overlap. Do the claim requires contact the treatment fluid with the substrates? How it can be consistent with the requirement of claim 36?

Claim 34 is further indefinite because it is not clear what is referenced as "different chemicals". It is not clear different from what the chemicals should be?

Claim 37 is indefinite because it is not clear where the third fluid is introduced.

Claim 39 is indefinite because it is not clear what is referenced as "... fluids are made available by means of respective treatment fluid supply units. " Which steps are required by this claim?

Claims 42 and 43 are indefinite because it is not clear how can the substrates be charged in or unloaded from the tank covered by a lid.

Claim 44 is indefinite because it is not clear what is required by the limitation to the handling mechanism to "access a common introductory delivery station.

Claims 46-59 are indefinite because they fail to recite structural relations between the claimed parts of the apparatus.

The claims are also indefinite because they recite an apparatus for treatment substrates, but fail to recite any means to enable a treatment of substrates. No means to manipulate substrates to enable a treatment is disclosed.

Claim 50 is indefinite because it is not clear what is referenced as "a fluid circuit".

Claim 56 is indefinite because it is not clear what is referenced by the term "making substrates available for both tanks".

Claim 57 is indefinite because it is not clear what is meant under "concentrating substrates.

As to the claims introducing the limitation by "wherein" and reciting the intended use:

It is not clear whether or not the limitation introduced by this clause is required or it is optional and does not limit the claims. See MPEP 2106 (C), which states that:

"Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim: (A) statements of intended use or field of use, (B) "adapted to" or "adapted for" clauses, (C) "wherein" clauses, or (D) "whereby" clauses.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 31-39 and 45-52 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mohindra et al (US Patent No 5,988,189).

It is noted that in view of indefiniteness of the claims, they are examined at the best examiners understanding of what is claimed.

Mohindra et al teaches a method and apparatus for processing substrates. The apparatus comprises two or more processing tanks, a controller or controllers, chemical supply systems, gas supply system, quip dump rinsing system, Marangoni drying systems, lids for tanks, circulating and filtering systems, etc. The method comprises preparing treatments fluids and application them to the substrates in a needed sequence. The cleaning processes are independently or commonly controlled by the controller (controllers). The document discloses quick dump rinsing and Marangoni drying. See entire document, especially Figures, 1, 2, 3, 8 and 9 and the related description.

It is believed that the claimed limitations either disclosed, or obvious over the teaching of Mohindra et al.

8. Claims 40-44 and 52-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohindra et al (5,988,189) in view of Kinose (5,915,396), Miyazaki et al (5,950,643), Thompson et al (5,996,241) and Yonemizu et al (5,975,097).

Mohindra et al do not explicitly teach a mechanism for charging and unloading substrates. They also fail to explicitly recite a common introduction/delivery station.

However, such devices and their use were notoriously well known in the art of the processing semiconductor substrates, as evidenced by the teaching of the secondary references.

It would have been obvious to an ordinary artisan at the time the invention was made to incorporate automatic substrate mechanism for manipulating substrates and a common introduction/delivery station in Mohindra et al with reasonable expectation of adequate results in order to automate handling of the substrates and to prevent the use of manual labor and to exclude the contamination and mishandling associated with handling the substrates by a person.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 4,917,123 is cited to show the state of the prior art with respect to the substrate cleaning methods and apparatuses. .

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 703-308-7545. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P Gulakowski can be reached on 703-308-4333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703--308-0651.

Alexander Markoff
Primary Examiner
Art Unit 1746

am

ALEXANDER MARKOFF
PRIMARY EXAMINER